

JUL 06 2006

Application No.: 10/000284

Case No.: 56530US002

REMARKS

Favorable reconsideration is respectfully requested in light of the following comments. Claims 1-35 remain pending. Applicants respectfully disagree with each statement made in the instant Action, including any statements not expressly discussed herein. From a review of the Advisory Action, it appears that the Response filed May 25, 2006 has in fact been entered into the record and thus Applicants will not repeat the entirety of that Response.

Claim Rejections – 35 USC § 103

Claims 1-2, 4, 6, 8-9, 15-27, and 34-35 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Sano et al., U.S. Patent Publication No. 2003/0236321, in view of Krepski et al., U.S. Patent No. 5,929,160. The Examiner has relied upon Sano et al. to disclose an ink composition and Krepski et al. to suggest inclusion of a silyl-terminated sulfopoly(ester-urethane). Applicants disagree.

Claims 1-5, 9-16, 23-25, 27, 31 and 34-35 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Zhu, U.S. Patent No. 5,889,083, in view of Krepski et al., U.S. Patent No. 5,929,160. The Examiner has relied upon Zhu to disclose an ink composition and Krepski et al. to suggest inclusion of a silyl-terminated sulfopoly(ester-urethane). Applicants disagree.

Claims 1-2, 4-9, 15-16, 23-25, 27-30 and 32-35 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Erdtmann et al., U.S. Patent No. 6,533,408, in view of Krepski et al., U.S. Patent No. 5,929,160. The Examiner has relied upon Erdtmann et al. to disclose an ink composition and Krepski et al. to suggest inclusion of a silyl-terminated sulfopoly(ester-urethane). Applicants disagree.

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These *prima facie* obviousness rejections are flawed since there is, at least, no reasonable expectation of success that the compounds allegedly described in Krepski et al would jet through an ink jet print head nozzle.

No Reasonable Expectation of Success

There is no reasonable expectation of success that the silyl-terminated sulfopoly(ester-urethane) material described in Krepski et al. would jet out of an ink jet head. As described in the pending background, it is desirable to provide a high solids content ink, however, attempts to prepare high solids inks have met with various problems: flocculation of the pigment, clogging of the ink jet nozzle, poor jetting characteristics, and the like.

The claimed silyl-terminated sulfopoly(ester-urethane) ink jet particles are described in the pending application as being self-cross-linking (defined as – upon exposure to ambient conditions a covalently crosslinked network forms without any applied energy or curative). One skilled in the art expects that these self-crosslinking silyl-terminated sulfopoly(ester-urethane) particles would not be useable in an ink jet printing process since it is well known that clogging the ink jet print head nozzle occurs when high solids inks cross-link or polymerize, especially when the ink jet print head warms.

The Examiner has rebutted this argument by asserting that Krepski et al. disclose polymers having number average molecular weights that overlap ranges disclosed by the secondary references. The Examiner has asserted, in support, that Krepski et al. disclose compositions having viscosities that overlap ink jet ink viscosities. Moreover, the Examiner has asserted, in support, that Krepski et al. disclose particle sizes that are allegedly suitable for use in an ink jet ink. These parameters, in and of themselves, are not sufficient to demonstrate that one of skill in the art would expect Krepski et al.'s polymers to be suitable for use in an ink jet ink.

Molecular weight is irrelevant, particularly if the polymer is self-cross linking under ambient conditions. As discussed above, the material's self-cross linking properties would lead

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one of skill in the art to expect these polymers to not pass properly through an ink jet nozzle, regardless of the number average molecular weight prior to passing (or attempting to pass) through an ink jet nozzle.

Viscosity alone does not demonstrate suitability for a particular use. The Examiner has asserted that the lower end of Krepski et al.'s viscosity range (1 to 50,000 centipoise) would overlap what is thought of as suitable for an ink jet ink. However, it is noted that whole milk has a viscosity of 2.21 centipoise. Skim milk has a viscosity of 1.4 centipoise. A sucrose solution (20 weight percent sucrose) has a viscosity of 1.92 centipoise. These would seem to fall within the lower end of Krepski et al.'s range and thus, according to the Examiner, would presumably be suitable for use as an ink jet ink. Clearly, viscosity alone does not demonstrate suitability.

Particle size alone does not demonstrate suitability for a particular use. Various abrasive particles are known, for example, including some that may have a particle size close to that discussed by the Examiner. However, this does not mean that they would be expected by one of skill in the art to be suitable for use in an ink jet ink.

Thus, the Examiner's assertions regarding molecular weight, viscosity and particle size do not rebut the arguments presented by Applicants in the previous Response. In particular, the Examiner has failed to adequately address (or even address at all) Applicants' assertions pertaining to the self-cross linking nature of the polymers disclosed by Krepski et al. Applicants maintain that because of this property, one of skill in the art would not expect Krepski et al.'s polymers to successfully pass through an ink jet nozzle, regardless of perhaps incidental overlap in particular parameter ranges.

Applicants assert that there is no reasonable expectation of success that the self cross-linkable silyl-terminated sulfopoly(ester-urethane) material described in Krepski et al. would jet out of an ink jet head as suggested by the Examiner. Thus, the *prima facie* obviousness rejection is flawed and should be withdrawn. Favorable reconsideration is respectfully requested.

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Conclusion

In view of the above, Applicant respectfully requests withdrawal of the rejections and allowance of the claims. Prompt passage to issue is earnestly solicited. Should the Examiner feel a telephone interview would be helpful in advancing this case to allowance, Applicant invites the Examiner to contact their representative at the number listed below.

Respectfully submitted,

7-6-06
Date

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